

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

RESOLUTION NO. 00-99

REQUEST FOR \$600,000 FROM THE STATE WATER RESOURCES CONTROL BOARD'S
CLEANUP AND ABATEMENT ACCOUNT FOR THE ERADICATION OF *CAULERPA*
TAXIFOLIA IN THE SANTA ANA REGION

WHEREAS, the California Regional Water Quality Control Board, Santa Ana Region (hereinafter, Board), finds that:

1. *Caulerpa taxifolia* is a marine alga that is native to tropical locations around the world, including parts of the Caribbean and Australia. *C. taxifolia* is not native to the Pacific coastline, but was discovered in Agua Hedionda Lagoon, San Diego County, in June 2000. *C. taxifolia* has been determined to be highly invasive in temperate marine ecosystems, out-competing native plant species and eliminating the preferred habitat of native fish populations and other biota.
2. *C. taxifolia* was discovered in a manmade lagoon off Huntington Harbour, Orange County, in June 2000. Santa Ana Regional Board staff joined the Southern California Caulerpa Action Team (SCCAT), which includes representation from a number of State and Federal agencies and academic institutions. SCCAT was established to provide joint oversight of *C. taxifolia* eradication efforts in southern California. SCCAT recommended immediate eradication in the lagoon to prevent the alga from spreading further.
3. On September 20, 2000, Board staff requested \$100,000 from the State Board's Cleanup and Abatement Account to initiate the eradication effort in the lagoon. This request was approved. However, on October 18, 2000, it was found that *C. taxifolia* had already moved into an adjacent area within Huntington Harbour.
4. Timely action to eradicate *C. taxifolia* is necessary to prevent its spread to other areas. Extensive surveys will be necessary to determine whether the alga is present in other areas. Surveillance will be necessary to confirm the success of eradication efforts. Public outreach is also an essential component of *C. taxifolia* control efforts. Swimmers, boaters and others using the area have the potential to contribute to the spread of the alga unless properly educated. The public can also provide valuable information concerning the presence of the alga.
5. SCCAT is working with a biological consultant to determine the methods to eradicate *C. taxifolia* that are most appropriate to specific locations. An action plan has been developed that includes surveillance and mapping, eradication implementation, post-treatment monitoring and long-term surveillance. The total cost is estimated at \$617,844. Outreach efforts are expected to require an additional \$30,000.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board requests that the State Water Resources Control Board release an additional \$600,000 from the Cleanup and Abatement Account to support the *Caulerpa taxifolia* eradication efforts in the Santa Ana Region.

2. The Regional Board directs Board staff to submit this resolution to the State Board to request the funds from the Cleanup and Abatement Account.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region, on November 17, 2000.

Gerard J. Thibeault
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

November 17, 2000

ITEM: 9

SUBJECT: REQUEST FOR FUNDS FROM THE CLEANUP AND ABATEMENT
ACCOUNT (RESOLUTION NO. 00-99)

DISCUSSION:

Caulerpa taxifolia is a pan-tropical marine green alga that is used in saltwater aquariums. A strain of this alga was first discovered in the Mediterranean Sea in the early 1980's. The alga was apparently released accidentally from an aquarium in Monaco. In 1984, *C. taxifolia* occupied 1 square meter in the Northern Mediterranean in 1984; however, today it is estimated to cover approximately 12,000 acres of ocean bottom from Croatia to Spain and has recently been found off the coast of Tunisia on the North Coast of Africa. *C. taxifolia* has been determined to be highly invasive in temperate marine ecosystems, out-competing native plant species and eliminating the preferred habitat of native fish populations and other animals.

In June 2000, *C. taxifolia* was found growing among eel grass beds within Agua Hedionda Lagoon in Carlsbad, California. San Diego Regional Board staff partnered with other State, Federal, and local agencies to launch a coordinated eradication effort. The agencies formed the Southern California Caulerpa Action Team (SCCAT), which is now coordinating search and eradication efforts for *C. taxifolia* in Southern California. A consequence of SCCAT's work was the finding that *C. taxifolia* was present in the Seagate-Westchester Homeowner Association east lagoon, a manmade lagoon located off Huntington Harbour. Although SCCAT was informed of this finding in June 2000, it is believed that *C. taxifolia* was actually first discovered in that same lagoon in June of 1998.

Regional Board staff immediately coordinated with SCCAT to develop a Huntington Harbour eradication action plan responding to the new infestation. Regional Board staff submitted a request for \$100,000 from the State Water Resources Control Board's Cleanup and Abatement Account to initiate the action plan. This request was approved. An extensive survey of the east lagoon was first conducted to determine the extent of the infestation. Poor water clarity prevented scuba divers from visually identifying the full extent of *C. taxifolia* in the Seagate lagoon. Regional Board staff and the biological consultant determined that the lagoon survey method would need to be revised to accurately determine the extent of the infestation. The lagoon bottom was segmented into 2.5 x 5-meter rectangles using colored rope to provide the divers with a method to search the bottom and keep an accurate record of the infestation. *C. taxifolia* was determined to be present as thousands of fragments and whole plants in the western portion of the lagoon (approximately 1 acre). The entire western third of the pond is in the process of being covered with an underwater tarping system, and fragments and whole plants larger than 6 inches long would be treated by placing a chlorine tablet next to the alga before being covered by the tarp. Similar eradication methods will likely be used for all other infested areas.

Precipitation the week of October 23, 2000 halted the survey and eradication work in Huntington Beach. The OSHA-required dive plan and recommendations from the County of Orange necessitate that divers wait 3-5 days after a rain event before reentering the water in case bacteria levels and other pollutants potentially present in urban runoff exceed public health levels. Further rain events through the winter will prolong the search and eradication effort, which could increase the cost of the project.

Unfortunately, *C. taxifolia* is still legal to possess and sell within California. This increases the probability for future introductions. San Diego and Santa Ana Regional Board staffs are both working on public outreach within their respective regions. Outreach target groups include aquarium enthusiasts, scuba divers, fishermen, boat hull scrapers, environmental groups, and other groups/people who have a stake in, or concern for the health of the marine environment. It is critical to have public support for this project, and to have the general public aware of the threat that this alga poses to the coastal ecosystem of Southern California.

Preliminary surveys for *C. taxifolia* were conducted in the western lagoon and the Harbour itself on October 18, 2000. The surveys show that the extent of the *C. taxifolia* infestation is greater than previously believed. Obviously, the original \$100,000 from the Cleanup and Abatement Account will not be sufficient to cover the cost of the continuing search and eradication effort. Regional Board staff therefore recommends that an additional \$600,000 from the State Water Resources Control Board's Cleanup and Abatement Account be requested to further the search and eradication effort in Huntington Harbour. The additional funds will be used to search for and eradicate all *C. taxifolia* from the Seagate-Westchester Homeowner Association lagoons and Huntington Harbour. For requests greater than \$100,000, a Regional Board resolution is necessary.

RECOMMENDATION:

Staff recommends that the Regional Board adopt Resolution No. 00-99, requesting that the State Water Resources Control Board release an additional \$600,000 from the Cleanup and Abatement Account to support *C. taxifolia* eradication efforts in Huntington Harbour.